

## **Identifying The Dimensions Of Attitudes Toward Vocational Economy And Commerce Education: A Research In Sarajevo, Bosnia And Herzegovina**

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### **Abstract**

The purpose of this research is to identify the dimensions of attitudes toward vocational economy and commerce education in high schools in Sarajevo, Bosnia and Herzegovina.

Secondary school students' attitudes toward professional economy and commerce education are analyzed through a self administered questionnaire. The surveys were collected from four high schools giving economy and commerce education in Sarajevo Canton. Out of the total number of 820 students in the second, third and fourth grades, 373 students were surveyed as part of the study. The results show that the students' attitudes toward vocational economy and commerce education in Sarajevo Canton can be explained by six dimensions. These dimensions are "laboratory and physical resources", "education", "books", "courses", "overall attitude", and "career intentions".

**Keywords:** Vocational education, economy and commerce education, high schools, Sarajevo

## 1. INTRODUCTION

Bosnia and Herzegovina is a new republic established after a devastated war between regional forces On December 14, 1995. The country is divided into two entities (Bosnia-Herzegovina Federation and Serbian Republic) and an autonomous district (Brcko). The area of Bosnia-Herzegovina Federation covers %51 of the area of the country and the area of Serbian Republic covers %49. The approximate population of Bosnia Herzegovina is 3.4 million and 51.1% of the population is female and 48.9% is male (in 2007 estimates). Bosnian (43.5%), Serbian (31.2%) and Croatia (17.4%) ethnic groups constitute the majority of the Bosnia Herzegovina's population (Küçükiremitçi, Genç, Şimşek, Ekinci, Ersoy ve Sekmen, 2010).

Present education system in Bosnia Herzegovina is planned and carried out separately by two entities and autonomous Brcko district. Although Federation Ministry of Education and Science forms the national education planning and coordination of the 10 cantons that constitute Bosnia Federation, Canton Ministries of Education carry out education applications in a non-central way. Cantons are authorized to legislate and use their own laws on the condition that they adhere to the federation laws. In Serbian Republic (Republika Srpska) there is a central education system. Central administration plans and carries out the issues such as determining school subjects, preparing curriculum, control and number of teachers. In the country totally 12 ministries of national education (10 cantons, Serbian Republic and Brcko District) conduct education applications (Jabuča, Gaković, Hadrović, Prohaska, Đokić, Vlasić, Markotić, Mandić, Merlo, Praso, Jović, Leto, Sarajčić, Mulać, Vlasić, Nusic, Ličina and Gaković, 2001).

In Bosnia Herzegovina 9-year compulsory education is implemented and it is free of charge (Foundation for Development of Relations with Bosnia (BIGMEV), 2012). Education and training start at the age of 6. Education life in Bosnia Herzegovina is divided into three parts: primary, secondary and higher education. Schools offering primary education are named as "osnovna škola" and they implement a 9-year education program that trains students between the ages of 6-15. After primary education, students start secondary education which lasts 3 or 4 years. Seven school types are found in the country (Jabučar et al., 2001). These are general education, languages and mathematics (Gimnazija), teaching schools (These schools are only in the Federation regions where mainly Bosnians live.), art schools, technical and related schools (These schools are only in the Federation region and they are named as 4-year

vocational schools.), vocational schools (These schools are named as 3-year vocational schools.), religious schools, special schools.

Schools that are dealt within the scope of this study are technical and related schools and vocational schools and they offer economy and commerce education. Technical schools give 4-year vocational education, vocational schools give 3-year vocational education. Schools that give 4-year vocational education accept students with exams; entrance to 3-year schools is with ability tests. In order for graduates of 3-year vocational schools to continue higher education, they have to switch to 4-year education and complete it. The ones who have completed their 4-year education can continue higher education (Institutional and Capacity Building of Bosnia and Herzegovina Education System, 2008).

This research examines the attitudes of high school students receiving economy and commerce education towards vocational education and the relationship between these attitudes and career expectations for the future.

The research questions are determined as follows:

What are the factors forming the attitudes of students, who are receiving economy and commerce training in Sarajevo Canton, towards vocational education?

What are the basic dimensions determining the attitudes of students towards vocational education?

## **2. LITERATURE REVIEW**

### **2.1. Vocational Education**

The technological improvements in our rapidly improving and changing world increase the use of information and cause this information to spread quickly. This situation reveals labor market's need for intermediate staff that is equipped, open to innovation and is able to adapt themselves to new improvements. Therewithal, the need and expectations of business world lead people to specialize in certain fields. This increases the importance of the vocational schools training qualified staff. In this sense, "vocational education can be named as activities that bring ability and behavior with individual development in a profession with the aim of meeting the needs of individuals that make up society and individuals' activities to improve their capabilities with various aspects in order to be useful for the society" (Yıldırım, 2003: 2).

Vocational and technical education is one of the prior issues in education in European Union countries. In the year 2002 in the notice published as part of "Copenhagen Process" it was emphasized to increase the quality of VET and the decision to study on the issue was taken (Copenhagen Process, 2002).

Bosnia-Herzegovina, taking steps to integrate itself into European criteria, initiated the integration projects also in VET field and reform movements between the years of 1998-2000 with "EU Phare" program. Within the scope of this project "Green Paper" including strategy and plans related to VET that is compatible to EU trends was prepared. "The White Paper" was published in December 2001 by being accepted by all institution and canton level ministries.

## **2.2. Economy and Commerce Education in Sarajevo Canton**

In Bosnia in general and in Sarajevo Canton economy and commerce high schools offer their graduates diploma and certificate as a result of the education they give. In Sarajevo Canton there are a total of 35 state and private high schools and the total number of the students in these schools are 162,434. Among these high schools there are 5 schools, which are related to the topic of the thesis carried out, including commercial high school, high school of economics and multi-programmed high schools offering commerce education and the total number of students of these schools are 820.

Unemployment is a serious problem of Bosnia Herzegovina. When the causes of this problem are taken into consideration it seen that the educational level of the unemployed is low and they do not have the enough qualification to find a job. This must show us that vocational education is a quite important education to train qualified staff for the labor market. The unemployment rate's being high in Bosnia Herzegovina effects the female population at the most.

## **2.3. Factors Influencing the Quality of Economy and Commerce Education**

One of the main factors of economic and social development is vocational education. Vocational education is seen as a crucial tool to obtain efficiency in the operation of economy and to achieve social welfare (Mouzakitis, 2010). Because of the reasons mentioned vocational education is one of the issues that managers and educators always overemphasize (Qiang and Shiyan, 2012). When the research and applications carried out are examined, it can be suggested that main factors determining the quality of vocational education fall under six headings (Pehlivan, 2008; İmamoğlu, 2010; Ozturk, 2001). These main factors are; course structure, textbooks, educators, technological resources, practical education and internship and physical environment.

### **2.3.1. Course Structure**

According to Child (2004), education curricula can be grouped under four headings. These are content, learning experiences, objectives and assessment. Child at the same time defines the effective curricula as the ones that encourage teachers and students to talk on the important issues and bring practical experience with academic knowledge. As in all areas, curricula in vocational education should be designed in a way that teaches students the requirements of the profession and presents them an opportunity to show their capabilities (Bowers, 2006; Kang and Bishop, 1986). The course curricula in vocational education should be prepared by taking teacher and student's opinions (Bowers, 2006). It can be expected the curricula reflecting teacher and student's opinions to be more encouraging and successful.

### **2.3.2. Textbooks**

Nowadays, even though the use of technology increases, the importance of the course books for the education does not change (Prucha, Walterova and Mares, 2003). In this sense, also in

vocational education, course books are an important factor for student's attitude towards the course and learning. In vocational fields the course books have the characteristics of a tool that visually presents art, science and technology in accordance with the student's level (Novota, Ridzonova, Kadnar and Stefkova, 2012). Novota et al. (2012) found in their study that even if vocational education students do not use the course books constantly, they use them as a part of education. In this study teacher state that they find the course books insufficient and they refer to the Internet to complete the lacking parts. Writers state that course books are one of the most important elements in terms of the quality of education.

### **2.3.3. Educators**

The most successful teachers are the ones who give their students pedagogically the most qualified education in the field offered (Darling-Hammond, 1997). According to the observational theory put forward by Bandura (1971), most of the time the reason for the changes in human behavior is by observing the behavior of the people nearby like teacher, parents and friends. Among these people around student teacher factor confronts us as the person from whom the student is influenced and whose behavior the student models at most. Additionally, Lleras (2008) puts forward that there is a positive relationship between students' learning and teachers' positive motivation. In terms of the communication between teacher and student, the efficiency of education depends on the highness of motivation of both sides (Igwe, 2002).

### **2.3.4. Technological Resources**

In economy and commerce education the use of technology is by using packaged software, simulations, case studies, public access databases via the Internet, networking and interactive programs. In this respect, in the schools giving vocational education on economy and commerce, by teaching students packaged software widely used in the markets students can be made to get ready for the profession in this way. For instance in accounting education it has become compulsory for the course schedule and curricula to be improved in every respect and evaluated continuously (Yıldırım and Dalgeç, 1993). However, what is more important for the success of education is teachers' providing education by using different education methods while using computer (Dwyer, Ringstaff, and Sandholtz, 1991).

### **2.3.5. Practical Education and Internship**

At the present time, the internship training which is usually given in vocational education appears to be a complementary element for vocational education syllabuses (Knouse, and Fontenot, 2008). The internship training is important because it is the environment for the students to reinforce the things they have learnt during the lessons and to practice. Since students are personally in daily life with the internship programs, these programs make them gain a good training experience and provide them with a chance to improve themselves (Hendrie, 2004; Hirsch, 1974; Littky and Grabelle, 2004).

### **2.3.6. Physical Resources**

One of the factors that contribute to the academic success at school is school equipment (Hallack, 1990). The adequacy of physical facilities is one of important signs for student achievement (Shami and Hussain, 2005). School buildings, classrooms, accommodation units, libraries, laboratories, furniture, recreation equipment and other education materials constitute the physical environment and equipment in school. In addition to these, other factors such as books, audio-visual software and hardware and the size of classrooms can be regarded as the factors that forms student's learning environment (Farrant, 1991 and Farombi, 1998). In a research by Shami and Hussain (2005) it is found out that the adequacy of physical facilities is directly related to student's success. In a research carried out in the District of Columbia in the United States of America, it is seen that the grades of students who have education in neglected and old buildings are lower than the grades of students who have education in modern and well-maintained buildings (Edwards, 1991).

### **2.3.7. Student Participation**

In vocational education student participation starts with student's choosing his/her school. Research shows that the participation of students who choose their school willingly and their chance to choose the right career is increasing (Bishop and Mane, 2004).

Students' learning by taking responsibility in their education environment is important for their learning motivation to increase and for students to exhibit positive behavior (Le Brun and Johnstone, 1994). Students' active participation in class is closely related with their achievements in learning and forming positive attitudes towards education (Howard, Short, and Clark, 1996). In previous research on the subject, it is suggested that the elements determining student's active participation in class are student's taking notes, getting in touch with teacher or classmate and sharing ideas (Howard, Short, and Clark, 1996; Howard and Henney, 1998). The student who participates in class performs a more effective learning by exhibiting an active behavior. Since vocational education is an education method which is largely based on application and is actualized with student participation, student's success and career choice is directly related with active participation in class (Carbonaro, 2005; Farkas et al., 1990; Johnson et al., 2001; Kelly, 2008).

### **2.3.8. Career Intentions**

Vocational education as by its structure is directly related with career planning. Students thinking of getting vocational education, also make their career plans with their education plans. In a sense vocational education is a career oriented education. Thus, it is recommended that education on career facilities, occupations related to the education received and industry qualifications is given to students during training (Kelly and Price, 2009).

Vocational education's career development dimension is important to form positive attitudes in students towards school, to decrease prudential concerns and to increase students' motivation to improve themselves (Arum and Shivat, 1995). Kuijpers, Meijers and Gundy (2011), it can also be expected that student makes career plans in vocational education in which real life problems are discussed and student directly participates in discussion.

While making career plans in the correct way might have important positive impacts on students' life after training, making them in the wrong way might also have many negative impacts (Carbonaro, 2005; Gamoran, 1987; Lee and Bryk, 1988). Research shows that placing especially students from low-income groups in vocational education fields without a plan causes a decrease in student's motivation and failure in profession (Vanfossen, Jones, Spade, 1987; Gamoran and Mare, 1989). This case emerges more clearly in the event of placing students especially from minority ethnic groups in vocational education in an unplanned way (Brekke, 2007; Oakes, Ormseth, Bell and Camp, 1990).

### **2.3.9. Other Factors**

It should be indicated here that there might also be a good many different reasons determining students' attitudes towards vocational education and their intentions of making a career. For example, various reasons such as students' family and social environments, the place and geography where the education is received and personal facilities presented to the student can also effect attitude and career plans (Schoon, Martin and Ross 2007; Guo and Harris, 2000). Furthermore, students' personal qualifications and differences can also play an important role on their career plans (Bowles and Ginties, 2002). Topics other than determined elements are excluded from the scope of this research and left to be examined in the next studies. This research's findings are limited to tested topics and its sample.

## **3.METHODOLOGY**

### **3.1. Data Collection Instrument and Pilot Study**

The questionnaire used in this research consists of three parts. General questions are asked in the 1st part. Students are asked in which department they study, their reasons for choosing vocational education and who has got impacts on their choosing vocational education.

In the 2nd part demographic qualifications of participants are tried to be identified. In this part, demographic questions related to students themselves and their families are asked. In the 3rd part, questions to assess vocational education are posed. In this part participations are requested to consider 9 different dimensions as they evaluate vocational education. These dimensions are composed of questions about ideas on instructors and attitudes towards commerce education, course, the contents of course books, the use of technology in education, doing internship, physical facilities of educational institutions, student's participation in class and professional career expectations. While these questions are answered, it is expected to respond within the options of 1 "strongly disagree" and 5 "strongly agree". 3 is "I am not sure" option. For the students who do not have any opinions, "I have no idea" option was also given.

Before this questionnaire was implemented, a preliminary study was done in order for the questionnaire to be understood easily and not to overlook any problems related to the

research. A high school teacher and a university instructor who are engaged in related education were requested to examine the questionnaire and their opinions were taken. During these interviews parts which are not understood were revised and one of the questionnaire questions was removed. After that a pilot study was carried out by applying the questionnaire with a group of 45 3<sup>rd</sup> grade students from Economy high school in Zenica city. The application was done face to face in classroom environment. At the end of the preliminary study, the questionnaire was given its final shape.

### 3.2. Population Sampling and Data Collection

2, 3 and 4<sup>th</sup> grade students receiving education in economy and commerce high schools in Sarajevo Canton form the universe of this research. According to the information from Canton Ministry of Education, 820 2, 3 and 4<sup>th</sup> grade students receive education in economy and commerce high schools. High schools offering economy and commerce education, the types of these high schools, their education years, number of students and number of questionnaires collected in the scope of this research are given in Table 1. As it might be observed in the table, 45 % of the targeted number of students is reached and questionnaire response rate is 45 %.

Table 1. Number of high school and students surveyed

School	School Types	Education Year	Number of Current Students	Number of Collected Questionnaires
A (Ekon Saraj)	Economy	4	300	85
B (Trgov Sarj)	Commerce	4	200	78
C(Vogošca)	Economy	4	265	157
D (Hadzici)	Commerce	3	55	53
TOTAL			820	373

In the process of collecting questionnaire data, firstly the permission was asked by writing a petition to Sarajevo Canton Ministry of Education. In this petition, the objective of this research was explained and the questionnaire form to be used in the research was presented.

The data collection was performed with the permission of the Ministry of Education by making appointments with schools in different times. The data collection was performed in four different economy and commerce high schools in Sarajevo Canton. One of these schools is economy high school, another is commerce high school and the other two are Economy departments of Srednjoskolski Centar schools. Srednjoskolski Centar Schools are multi-programmed high schools embodying different departments. All of school directors were



interviewed beforehand and informed about how the questionnaire was going to be performed. All directors and pedagogues were closely interested in the application.

In general the students' interests and participation were high but in one school, instructor had to read and explain questionnaire questions one by one. The instructor put forward students' lack of interest towards education as a reason for his/her using this method and stated that the questionnaire would be more productive in this way. Questionnaires were implemented throughout December 2011 and a total of 373 questionnaires were collected.

## 4. RESEARCH RESULTS

### 4.1. Socio-demographic Analysis

The socio-demographic characteristics of the participants are given in Table 2. When the socio-demographic characteristics are examined, it is seen that 71.0% of the participants are female and 29.9% are male students. 67.5% of students' families are composed of 4-5 people. It can be observed that 54.5% of the monthly income of the participants' family is between 500 KM and 1.100 KM. The total is 71.5% and this shows that participants are satisfied with the quality of vocational education in general.

Table 2. Socio-demographic profile of the respondents

Socio-demographic Variables		n	%
Gender	Male	107	29.0
	Female	265	71.0
	Total	372	100
Family size	2-3	80	21.5
	4-5	251	67.5
	6 or more	33	8.9
	Missing	8	2.2
	Total	372	100
Monthly family income (Convertible Bosnian Mark (KM))	500 or less	50	13.4
	501-800	92	24.7
	801-1100	111	29.8
	1101 or more	102	27.4
	Missing	17	4.6

	Total	372	100,0
Father's occupation	Worker	146	39,2
	Public employee	41	11,0
	Business owner	42	11,3
	Unemployed	80	21,5
	Missing	63	16,9
	Total	372	100,0
Father's education	Primary school	25	6,7
	High school	242	65,1
	University	57	15,3
	Missing	48	12,9
	Total	372	100,0
Mother's occupation	Worker	105	28,2
	Public employee	39	10,5
	Business owner	20	5,4
	Unemployed	201	54,0
	Missing	7	1,9
	Total	372	100,0
Mother's education	Primary school	98	26,3
	High school	223	59,9
	University	43	11,6
	Missing	8	2,2
	Total	372	100,0
School type	3	53	14,2
	4	319	85,8
	Total	372	100,0
how the student selected this school	family	74	19,9

	friends	14	3,8
	Own decision	250	67,2
	teachers	9	2,4
	others	22	5,9
	Missing	3	,8
	Total	372	100,0
Why the student selected this school	Others motivated me	4	1,1
	To find jobs easier	177	47,6
	To continue university education	160	43,0
	Other reasons	27	7,3
	Missing	4	1,1
	Total	372	100,0
Overall quality of vocational education	Low quality	10	2,7
	unsatisfactory	23	6,2
	undecided	33	8,9
	Overall quality	187	50,3
	High quality	79	21,2
	Missing	11	3,0
	Don't know	29	7,8
	Total	372	100,0

#### 4.2. Descriptive Evaluation of Measurement Scales

The items of the scale used in the research are measured with 5-point Likert scales which denoted 1 absolutely negative and 5 absolutely positive categories at both ends of each scale items. While 1 and 2 alternatives marked for scale items express negative attitude, 4 and 5 alternatives express positive attitude. Grading done with 3 on the scale shows that no attitudes are developed related to mentioned item. Table 3 shows the descriptive analysis of students' answers to 29 scale items related to attitudes of participant students towards vocational education.

Table 3. Descriptive Analysis of Attitudes toward Vocational Education in Sarajevo Canton

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
1. I think I advance myself with the vocational education.	360	1.00	5.00	3.90	0.87
2. Our classroom size is adequate for the number of occupying students.	356	1.00	5.00	3.90	1.00
3. I plan to continue university education in this area.	341	1.00	5.00	3.89	1.20
4. I plan to pursue my career after my graduation.	336	1.00	5.00	3.88	1.17
5. Internship supports my vocational education.	298	1.00	5.00	3.87	1.06
6. The number of vocational courses at our school are adequate.	357	1.00	5.00	3.82	1.10
7. People who get education in this vocational area will have a successful career in this area.	326	1.00	5.00	3.78	1.01
8. If I had to choose again, I would choose to take vocational education.	330	1.00	5.00	3.73	1.19
9. Our teachers' subject knowledge is satisfactory.	360	1.00	5.00	3.70	1.09
10. I like vocational education.	349	1.00	5.00	3.66	1.02
11. I can get help in solving vocational education problems.	347	1.00	5.00	3.63	1.05
12. Homework improves us professionally.	351	1.00	5.00	3.63	1.07
13. I like vocational courses.	350	1.00	5.00	3.61	1.05
14. Our school building is well-kept.	341	1.00	5.00	3.57	1.10
15. My internship company is closely related to my vocational education.	247	1.00	5.00	3.56	1.08
16. I like to deal with vocational problems.	339	1.00	5.00	3.56	1.05
17. I can participate in the sample problem solving in the classroom.	324	1.00	5.00	3.52	0.98
18. I don't think that vocational courses are boring.	350	1.00	5.00	3.46	1.13
19. Our teachers' methods for teaching vocational subjects are very good.	361	1.00	5.00	3.46	1.12
20. Social spaces in our schools are adequate.	334	1.00	5.00	3.34	1.12
21. Vocational books make my learning the subjects easier.	351	1.00	5.00	3.23	1.24
22. Equipment at our school is adequate for contemporary needs.	315	1.00	5.00	3.20	1.11
23. Computer labs at our school are adequate.	360	1.00	5.00	3.16	1.36
24. Number of days allocated for internship is adequate.	310	1.00	5.00	3.14	1.34
25. The way our teachers' approach towards students is very good.	363	1.00	5.00	3.12	1.22
26. The theoretical information in vocational education books supports practical life.	344	1.00	5.00	2.99	1.15

27. Vocational books cover contemporary subjects.	345	1.00	5.00	2.92	1.22
28. We use computer software related to our profession adequately.	363	1.00	5.00	2.90	1.37
29. I can use school laboratories for my vocational education adequately.	353	1.00	5.00	2.84	1.28

#### 4.3. Exploratory Factor Analysis

In order to determine the number of dimensions of the 29 attitude items presented in Table 3, an exploratory factor analysis was implemented. The factor analysis was performed in five stages and the results obtained at the end of these stages are presented in Table 4. In the first stage of the analysis 7 dimensions whose Eigen values are over 1 were revealed by using basic components method and varimax transformation. However, among the scale items respectively three items related to internship were excluded from the analysis because of their factor loads' being low. As a result of the examinations, it was revealed that an important number of the students had not answered these questions. One reason for this is that the internship activities were not performed as required and students could not develop attitudes towards this topic. Two more items among scale items were respectively excluded from the analysis. It was observed that one of these two items was loaded on more than one item and the other one appeared as a separate factor. It was observed that among these items, the item related to teacher attitude was not completely understood by the students. The item related to the size of the classrooms was interpreted not to be associated with any dimensions by the students because of the fact that the classrooms were already big enough.

As a result of the analyses 6 factors presented in Table 4 were obtained. These factor dimensions are named as "Laboratory and physical resources, education, career, books, courses and overall attitude". As it can be seen in Table 4 the data support the factor analysis (Kaiser-Meyer-Olkin Measure of Sampling Adequacy: ,84) (Hair, Anderson, Tatham and Black, 1998) and 6 factors explain 67,62% of the total variance. The factor structure obtained as a result of the analyses was compatible with the theory and literature so the following analyses of the research were started.

Tablo 4. Exploratory Factor Analysis of Attitude Items

Components and loadings		Components					
		1	2	3	4	5	6
1. Computer labs at our school are adequate.	Laboratory and physical resources	,838					
2. I can use school laboratories for my vocational education adequately.		,812					
3. We use computer software related to our profession adequately.		,789					
4. Equipment at our school is adequate for contemporary needs.		,735					
5. Our school building is well-kept.		,647					,419
6. Social spaces in our schools are adequate.		,641					
7. I like to deal with vocational problems.	Education		,785				
8. I don't think that vocational courses are boring.			,715				
9. I can get help in solving vocational education problems.			,595				

10. Our teachers' methods for teaching vocational subjects are very good.			,591				
11. Homework improves us professionally.			,589				
12. Our teachers' subject knowledge is satisfactory.			,546			,403	
13. I can participate in the sample problem solving in the classroom.		,432	,479				
14. I plan to continue university education in this area.	Career			,862			
15. I plan to pursue my career after my graduation.				,836			
16. If I had to choose again I would choose to take vocational education.				,705			
17. People who get education in this vocational area a will have a successful career in this area.				,635			
18. Theoretical information in vocational education books supports practical life.	Books				,824		
19. Vocational books make my learning the subjects easier.					,784		
20. Vocational books cover contemporary subjects.					,764	,429	
21. The number of vocational courses at our school is adequate.	Courses					,779	
22. I like vocational courses.						,679	
23. I like vocational education.	Overall attitude						,743
24. I think I advance myself with the vocational education.							,646
Factor Eigen Values		7,762	2,563	1,756	1,605	1,402	1,139
The Variance Values for the Factors		32,343	10,681	7,317	6,689	5,842	4,747
Total Variance Explained		67,618					
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		,840					
Bartlett Test of Superficiality		Chi-square: 1972,103 (276), significance=,000					

#### 4.4. Reliability and correlation analysis

Reliability analyses were implemented in order to determine to what extent the substances that constitute the factors are related with the factors they belong to. Reliability analysis results of factors are given in Table 5. Due to the fact that factor reliability coefficient in reliability analyses was high and there were no items that would significantly reduce the reliability coefficients, any items were not removed from the scale.

As it can be seen in Table 5, reliability coefficients of the tested dimensions except for “courses” dimension are over 70. These values prove that this scale can be evaluated as reliable (Nunnally, 1978). Since the courses dimension is theoretically an important dimension of education evaluation and reliability value ,614 is acceptable in general, this dimension was included in the analysis (Hair et. al., 1998). In order to examine the relationships between the factors in the research model, scale indexes were composed based on the general arithmetic means of scale items which constitute the factors obtained from the factor analysis. The arithmetic means, standard deviation and correlation values of the factors are presented in Table 6. As it can be observed from the correlation table, the highest correlation value among independent variables in the research model is ,56. As the correlation values among factors are not so high, it can be interpreted that they can be accepted as different factors.

Table 5. Reliability Analysis

Factors	Number of Items	Cronbach Alpha
Laboratory and physical resources	6	,873
Education	7	,825
Career	4	,798
Books	3	,802
Courses	2	,614
Overall Attitude	2	,700

Table 6. Correlation Analysis

Factors	AA	SS	1	2	3	4	5	6
Laboratory	3,13	0,99	1	,508	,436	,234	,365	,223
Education	3,56	0,76		1	,480	,430	,560	,489
Career	3,79	0,95			1	,280	,380	,278
Books	3,03	1,02				1	,443	,200
Courses	3,71	0,94					1	,350
Attitude	3,77	0,84						1

## 5. DISCUSSION

The purpose of this study was to identify the underlying dimensions of vocational economy and commerce education in Sarajevo, Bosnia and Herzegovina.

The research was carried out in 4 vocational schools in Sarajevo Canton. The majority of students who participated in the research were composed of female students. Students commonly stated that they had taken their vocational education decision themselves and their main purpose was to find a job easily and to continue their university education. Half of the students indicated that the quality of education they received was in “general level”. When the socio-demographic qualifications of students are examined, it can be observed that the income of their families is low, most of the parents are high school graduates and in connection with this fact their unemployment rates are high are the reasons leading them to have vocational education.

In order to determine students' attitudes towards vocational education, a 29-item economy and commerce scale was prepared. When students' answers for the items in this scale are viewed, it can be said that students improve themselves by receiving vocational education

and they regard vocational education as a tool to make career and continue their university education. The arithmetic means' related to these items being high is an expected situation. The literature research also shows that vocational education is an education received for career. On the other hand, students exhibit negative attitudes in three topics. These facts are; books do not include recent topics, packaged programs related to vocational topics are not adequately used and students do not sufficiently use the school laboratories. According to these results, in order to improve students' attitudes towards vocational education, the necessity to perform the required studies on these three topics comes out.

To identify the basic dimensions determining students' attitudes towards vocational education, seven dimensions were specified and items related to these dimensions were presented to students' evaluations. As it was indicated in the research model, these seven dimensions were courses, textbooks, lecturers, technology use, internship, physical environment and student participation. As a result of the factor analyses performed with the obtained data, it was concluded that these seven dimensions might be examined in a more reliable way under four basic dimensions. The new obtained dimensions were education, books, courses and laboratories and physical facilities. Because of this fact it can be stated that for the Sarajevo Canton where the datum was collected, the four basic elements forming the attitudes towards vocational education in economy and commerce education are education, books, courses and laboratories and physical facilities.

As a conclusion, it can be stated that policy makers and school administrators should focus on these four dimensions to improve students' perceptions of the vocational education in economy and commerce areas. Administrators should also investigate the ways to improve practical internship opportunities for students which will prepare them for future careers.

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